REMARKS

Claims 1, 2, 5, 6, and 9-13 are pending in the application.

Claim Rejections - 35 U.S.C. 112

Claims 1, 2, 5, 6, and 9-13 stand rejected under 35 U.S.C. 112, 2nd paragraph, as being indefinite because it is not made clear whether „operator's visual verification" refers to the verification mentioned before or after verification by a second operator.

It is respectfully submitted that, based on the structure of the claim language, it is clear that the verification is done by one and the same operator as the two indented paragraphs following the method step "when the probability ..., recording ... and presenting" present the two options (passing or not passing the visual verification by the operator) and the correlated steps that are then to be taken in each case.

In order to emphasize that one or the other step is performed, based on the outcome of the visual verification, "either" has been added to the second to last paragraph of claims 1 and 10.

In claim 1, a spelling error ("documents" → "document") has been corrected.

The amendment to claims 1 and 10 are purely formal in nature in order to overcome indefiniteness issues and do not present new issues.

Reconsideration and withdrawal of the rejection of the claims under 35 USC 112 are respectfully requested.

Rejection under 35 U.S.C. 103

Claims 1, 2, 5, 6, and 9-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable in view of APA, *US 2001/006556 (Graves)*, and *US 5,537,486 (Stratigos)*.

The present invention concerns a method for using a sales machine for selling tickets for public transportation. Sales machines as they are known in the art are configured for selling tickets for public transportation and are configured to facilitate the purchase of goods and/or services to a customer against payment in the form of documents (vouchers, banknotes). The sales machine is provided with a verification unit by means of which the documents can be authenticated. The sales machine may furthermore comprise an intermediate storage in which accepted documents can be

retained until the amount of the documents corresponds to or exceeds the amount of the sales price of the ticket. The document is verified in the verification unit and an authenticated document is released for further processing. A document rejected by the verification unit is ejected from the sales machine.

The method of the present invention differs from the prior art as set forth above by the following steps:

authenticating the document by performing a combination of at least two different verification methods;

comparing results of the at least two verification methods with verification specifications;

determining a probability of authenticity of the document based on predetermined criteria;

when the probability meets the predetermined criteria, accepting the document as positively authenticated and maintaining the document in the intermediate storage until the amount of the documents maintained in the intermediate storage corresponds to or exceeds the amount of the ticket; or

when the probability does not meet the predetermined criteria and the document is negatively authenticated, recording the document as an image and presenting the image to an operator for visual verification by the operator, wherein either the document is accepted when the document has passed the operator's visual verification and the document is maintained in the intermediate storage, or the document is refused when the document does not pass the operator's visual verification, wherein the refused document is either fed to a separate storage device for invalid documents or the refused document is ejected.

The advantage associated with the claimed features resides in that the documents such as banknotes have several physically different safety features that can be checked or verified in order to achieve in this way an improved or more reliable authentication or verification of the documents or banknotes. The object of the present

invention is to improve a method of the kind explained above and as set forth in the introductory portion of the instant specification that concerns the authentication of documents, in particular banknotes. The present invention does not concern detection or verification of the value of a document or banknote but the verification that the document is an authentic document and not a forged document.

The prior art as set forth in the introductory portion of the instant specification (APA in the following) provides no motivation to a person of skill in the art to arrive at the claimed method; this is acknowledge by examiner and examiner therefore relies on Graves and Stratigos.

In applicant's opinion, Graves is not a proper reference for use in obviousness-type rejection because, in accordance with the USPTO memorandum of July 26, 2011, on "Analogous Art for Obviousness Rejections", neither one of the conditions (see below) set forth in the first paragraph of this memorandum is fulfilled:

1) the reference is form the same field of endeavor as the claimed invention;

or

2) the reference is reasonably pertinent to the problem faced by the inventor.

The first condition is not fulfilled because the USPTO has classified the instant application in U.S. classification 705/1 as well as 705/64; Graves is classified in US classes 382/135. Thus, the present invention and the reference to Graves are classified differently and do not belong to the "same field of endeavor".

Moreover, the fact that Graves and the instant invention belong to different technical fields is apparent in that the claimed invention is directed to a method for using a sales machine for selling tickets for public transportation. The reference to Graves concerns the banking industry, in particular evaluating currency bills that already are received and accepted in the bank and are in the form of stacks of bills that are to be checked for forged bills.

The second condition presented in the aforementioned memorandum is that the reference must be reasonably pertinent to the problem faced by the inventor. In the present invention the problem faced by the inventor is increasing the degree of reliable authentication of banknotes, for example.

Graves, on the other hand, concerns the problem of identifying as quickly as

possible in a stack of banknotes those that are forged. In order to achieve this, the method of Graves proposes to divide the evaluation of the banknotes into two different tasks. By the first test, the value of the banknote is determined (page 2, paragraph 0011, of Graves). By means of the second test, authentication of the banknote that, prior to this, has been evaluated with respect to its value is carried out (Graves, page 2, paragraph 0012, in particular first sentence). This means that Graves performs only a single test for authenticating the bill. This corresponds to APA as discussed in the introductory portion of the instant specification. In order to simplify matters, in the instant specification, the step of determining the value of the banknote has not been discussed, as it is generally known; as set forth in the instant specification, the present invention concerns banknote authentication and not the determination of the value.

On the surface, the same problem appears to be addressed in Graves and in the present invention. However, the invention, in contrast to Graves, performs two instead of a single examination for the purpose of authentication. Like the present invention, Graves differentiates between authentication of the documents and determination of the value of the document or banknote. Graves, in contrast to the present invention, stops the examination of the bill after a first unsuccessful test because a banknote without ascertainable value must be a forgery. This is different in the invention because the determination of the value of the banknote does not fall within the task of authentication. Therefore, in the present invention at least two verification methods are performed independent of their results ("authenticating the document by performing a combination of at least two different verification methods") while Graves (compare page 6, paragraph 0054; page 8, paragraph 0075, in particular last sentence) teaches stopping the process and removing the bill when the first test fails. Graves concerns the examination of a banknote as a whole while the invention exclusively concerns authentication. Therefore, the second condition of the aforementioned memorandum (reference reasonably pertinent to the problem faced by the inventor) is also not fulfilled.

Therefore, there is no motivation for a person of skill in the art faced with the problem of improved authentication to consider the reference to Graves for solving the problem as outlined in the present invention. Graves is thus not a pertinent reference in an obvious consideration pursuant to 35 USC 103.

Even when looking at Graves despite the above discussion, Graves cannot make obvious the present invention. As already discussed above, Graves differentiates between determining the value of a banknote and authentication of the banknote. In this connection, the authentication is made dependent on the feature to be tested so that in accordance with the feature to be tested an appropriate testing unit (Graves, page 13, paragraph 0115) for testing such a feature is provided.

That Graves separates the process of determination of the value of a banknote from the process of authentication is apparent in particular from page 9, paragraph 0079, last sentence, of the reference. Accordingly, the determination of the value of the currency bill can also be carried out by personnel ("human operator") so that only the second testing step, i.e. authentication, is required.

Graves therefore provides no motivation to develop the authentication process further such that not only a single feature is tested but that a second feature, independent from the first feature, is to be tested for authentication. In Graves, the second test depends on the first test; in contrast, the present invention requires that at least two verification methods must be performed. In the present invention, the results of both verifications methods are compared and evaluated in order to automatically carry out the authentication process. In Graves, there is no motivation or suggestion to employ for authentication a second test based on a second feature. Therefore, even when taking into consideration the disclosure of Graves, even though the reference is not pertinent according to the guidelines of the memorandum of July 26, 2011, Graves cannot make obvious the present invention.

Applicant would also like to submit that Graves in case of a negative test result with respect to the authentication process does not perform visual verification. Even though signals are saved that relate to documents identified as a forgery and are supplied to personnel, this does not constitute visual inspection but this only provides the possibility to find the location where the forged banknotes are arranged within the stack (compare Graves, page 4, paragraph 0042: "thereby providing a reviewable record indicating the presence of no call document in the stack"). In contrast to the present invention, Graves does not address the instantly claimed features that by means of visual inspection a verification of an already performed automatic

authentication is realized. This feature is thus not disclosed by Graves and also not obvious in view of the disclosure of Graves.

When further taking into consideration the reference to Stratigos, the present invention as claimed is also not obvious. As already discussed in the amendment presented May 22, 2011, this reference concerns the detection of authentic documents based on a special ink that is applied to the documents (compare: column 1, lines 49-53, of this reference). This ink has properties that enable detection of the ink on the document with high precision. In this way, it is possible to use sensors suitable for differential measurement (column 1, lines 46-50, of this reference). The method is directed to recognize the validity of documents (checks) in a stack at high speed. This also explains why this reference is classified in the same class 382/135 as Graves. Graves and Stratigos thus concern comparable methods for document authentication. For the same reasons as discussed above in connection with Graves, Stratigos would not have been considered by a person of skill in the art as a pertinent reference pursuant to the USPTO guidelines of July 26, 2011..

Even if a person of skill in the art were to consider Stratigos, this reference in combination with APA as discussed in the instant specification and Graves, cannot teach the present invention as claimed. The teaching of Stratigos is based on using invisible features (ink not visible to the human eye) in order to authenticate a document (column 1, lines 59-62). This invisible feature which is not visible to personnel is used for recognition and is detected by means of a scanner (column 3, lines 54 to 59). Based on the scanned information, an automatic evaluation in the form of a comparison with datasets (column 3, lines 62-65) is carried out. As a result of the comparison, density differences are obtained as information with respect to validity of the document (column 4, lines 7-9). The features that indicate the validity of the documents are not visible to the human eye (column 4, line 9-11).

Documents that are suspect of being forgeries and do not have the required markings are supplied to a separate inspection station so that the authentication result can be manually verified (column. 4, lines 12 to 14). Stratigos provides this manual verification only as an alternative of the automatic procedure (column 4, lines 55 to 61). In this case, scanning is required to create a video image or graphics file because the

feature to be automatically examined is not visible to the human eye.

Even when a person of skill in the art were to consider Graves and Stratigos, no motivation or teaching can be derived to perform authentication by means of two different verification methods that are also designed for different features. Therefore, the further consideration of Stratigos in combination with APA and Graves cannot make obvious the present invention as claimed. In particular, it should be noted that, according to Stratigos, automatic testing / verification is to be replaced by visual inspection. The combination of a visual inspection with automatic testing is not disclosed or obvious in view of Stratigos.

The same arguments apply also to the independent claim 10 so that reference is being had in respect to claim 10 to the above discussion.

In the last office action on page 6, at No. 29, the examiner states that Graves teaches authentication by performing a combination of at least two different testing methods.

Applicant respectfully disagrees. As explained above, the gist of Graves is to separate the detection of the value of a banknote from the authentication process (Graves, paragraphs 0010 through 0012); this separation gives the appearance that Graves supposedly performs two tests for authentication. Even though Graves performs two different tests, one testing method is provided exclusively to determine the value of the banknote while the second test is performed for testing authenticity of the banknote. The basic principle of Graves therefore provides only ONE authentication (verification) method; this is essentially the same concept that is also discussed in the introductory portion of the instant specification as APA: sales machines of the prior art perform only a single verification for authenticating banknotes. However, it is precisely this single verification concept that is disadvantageous; the present invention proposes an improvement by combining at least two verification methods for authenticating the document.

On page 7, No. 33, of the last office, the examiner states that Graves teaches that the scanned banknote is tested by means of two sensors because "taking multiple

samples of a document increases the "probability of accurate classification of the denomination of the bill" ([0047])".

Applicant disagrees with examiner's assessment. The text portion referred to by examiner provides no motivation that more than one sensor is to be used for optical data sets. The text portion only teaches that, by means of the same sensor 20, several scans can be performed. This disclosure thus concerns only the generation of several data sets by means of a single sensor (optical sensor 20). Therefore, this disclosure cannot provide a teaching in regard to probability as suggested by examiner. .

On page 8, Nos. 41 to 43, the examiner states that in Stratigos manual verification corresponds to visual examination.

Applicant disagrees. The disclosure of Stratigos defines what a visual inspection is: "the document is verified by an operator viewing the screen" (column 4, lines 55 to 61). However this is something different than confirmation according to column 4, lines 12 to 14. The confirmation process relates to confirming whether the automated verification has functioned properly. This may concern verifying the origin of the document in question. In any case, this is not the same visual examination because Stratigos uses a different expression in this context. Therefore, visual examination of banknotes that have been rejected by automatic verification is not disclosed in Stratigos.

On page 9, No. 47, the Examiner states that Graves teaches two testing methods: magnetic testing as well as visual testing and UV testing.

Applicant disagrees. The text portion that Examiner relies on, i.e., paragraph 0077 of Graves, is related to the second test being performed only after the first test has yielded a positive result, i.e., the banknote value has been detected (compare Graves, page 8, paragraph 0077, first sentence). Moreover, as a second test, a single testing method based on one of several features is proposed that is suitable for detecting the feature to be tested. A combination of two different testing methods for the purpose of authentication of the document is not disclosed in the cited text portion.

On page 9, No. 47, the Examiner states that Stratigos discloses a supplemental

visual examination.

Applicant disagrees. The text portion referenced by the examiner (column 4, lines 16 to 19, of this reference) concerns the case that the graphic image file of the scanned suspect document is transferred to a workstation for visual confirmation of a pattern or a feature. In this connection, this is not a second examination based on a different feature but is only a verification of the same feature that has been tested before and upon automated testing has caused a negative test result. A second verification method as claimed in the present application is therefore not disclosed.

On page 13, at No. 67, examiner states that optional features or features that are conditionally presented in the claims cannot be limiting because they can be left out. The Examiner refers to the last two paragraphs of claims 1 and 10, respectively. Examiner refers to MPEP2106 II C

Applicant disagrees. Firstly, Examiner has himself stated on page 12, No. 62, third sentence, of the last office action that features of the claims must be read in the context of the surrounding claim language. Secondly, applicant submits that MPEP 2106 II C reads in the last paragraph of that section as follows:

"Finally, when evaluating the scope of a claim, every limitation in the claim must be considered. USPTO personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered."

Accordingly, it is apparent to a person of skill in the art that the two features of the two last paragraphs of claims 1 and 10 are alternative features that are linked by a conditional relation: the verification leads to a positive or a negative result and, depending on the outcome, either one step is done or the other step is done. This conditional relation is claimed and not two alternatives. Neither one of the last two paragraphs can be eliminated or omitted as both steps are part of the verification process. Elimination of one of the features is not possible in the context of the claimed method. The steps cannot be considered alone but must be interpreted in the context of the surrounding claim language as the features are linked to the preceding verification result. It is not possible to eliminate one or the other because the method requires that

either one or the other step is performed based on the outcome of the test.

On page 14, No. 73, the examiner states that Graves enables the operator of the system to reject a suspect banknote. The word "review" according to the examiner indicates that a visual verification is performed.

Applicant disagrees. Visual examination is not performed in Graves. Only the automatically performed test itself is verified. This also explains why in case of Graves each and every banknote must be scanned. In the present invention, scanning of the banknote is performed only when a negative authentication has been encountered beforehand. This feature alone indicates that Graves discloses an entirely different method.

According to Nos. 75 to 85 on pages 15 to 17 of the last office section, the examiner states reasons why Graves is considered by examiner as relevant or pertinent.

Applicant disagrees with examiner's statements. As has been discussed above, when looking at the references based on the outlines of the memorandum of July 26, 2011, neither Graves nor Stratigos is relevant prior art.

According to No. 88 of page 17 of the last office section, the examiner states that Graves discloses visual examination or inspection. Examiner has based this assertion on the text portion "allows the operator to review the suspect bill after the bills have been scanned".

Applicant disagrees. On the one hand, the visual examination in Graves is not a different examination in the meaning of the present invention because the scanned banknote is subjected to the automatic test as well as the possibility of "review". Accordingly, the same and not different features are detected. Also, the referenced text portion (Graves, page 4, paragraph 0042) relates to a signal which is generated for banknotes whose value has not been recognized. This text portion of Graves does not concern authentication. Therefore, it is not the scanned banknote that is provided for review but the signal relating to the value. Also it should be noted that the cited text

portion concerns the determination or detection of the value of the banknote; this takes place according to Graves separated from authentication of the banknote. Therefore, this disclosure of Graves cannot be associated with authentication.

Reconsideration and withdrawal of the rejection of the claims under 35 USC 103 are respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or **e-mail** from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on November 27, 2011,

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